<center>REMARKS</center>

Applicant, by the amendments presented above, has made a concerted effort to present claims which clearly define over the prior art of record, and thus to place this case in condition for allowance.

In the Office Action, the Examiner rejected the pending claims citing United States Patent Application Publication No. 2003/0062643 (Bulgrin et al.).

Applicant has amended independent Claims 1 and 9 to define that the estimated melt pressure value $\hat{\delta}$ is derived based on an observer **without deriving a differential of the detected angular velocity ω**. Applicant submits that this is neither disclosed nor suggested by the prior art.

Bulgrin discloses a melt pressure estimating method in an injection molding machine without a melt pressure sensor. As described in expressions E1-E3 in Figs. 9-13, the method disclosed by Bulgrin comprises steps of detecting angular velocity ω and torque value T_2 of a motor, **differentiating the detected angular velocity ω (E3)** and deriving the melt pressure P_{MELT} by the differential of the angular velocity ($\omega' = \alpha$) and the torque value T_2. In this context, the differential of the angular velocity ω expands a magnitude of noises in the detecting value of the angular velocity ω. Accordingly, a precise melt pressure control is made difficult in the method by Bulgrin (See paragraphs [0005] - [0009] in the description of the

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present application).

On the other hand, in the present invention, an estimated melt pressure value $\hat{\delta}$ is derived without deriving a differential of the detected angular velocity ω. Because, the "observer (observed state value)" defined in the present invention is an equation for obtaining an estimated value of a state variable by solving a differential equation expressed to estimate a state variable (converge at a state variable) such that a control target output coincides with a model output. The "observer" of the present invention thus made by previously solving the differential equation is not required to execute differentiation on actually obtaining the estimated melt pressure value $\hat{\delta}$.

Bulgrin fails to teach the above-mentioned point. As such, Applicant submits that the present invention is patentable over the prior art.

Should the present claims not be deemed adequate to effectively define the patentable subject matter, the Examiner is respectfully urged to call the undersigned attorney of record to discuss the claims in an effort to reach an agreement toward allowance of the present application.

Respectfully submitted,

Date:February 23, 2009   By: _____
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